

## Lithium Ion Battery Test Summary

### LITHIUM CELLS OR BATTERIES TEST SUMMARY IN ACCORDANCE WITH SUB-SECTION 38.3 OF UN MANUAL OF TESTS AND CRITERIA

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Lithium Ion cells and Metabo Lithium-Ion-batteries Li-Power, LiHD, LiHDX and CAS Li-Ion have been successfully tested and comply with UN Model Regulation, Manual of Test and Criteria, Part III subsection 38.3

| PERFORMED TESTS |    |                        | RESULTS        |                |
|-----------------|----|------------------------|----------------|----------------|
|                 |    |                        | Cells          | Batteries      |
| 38.3.4.1        | T1 | Altitude Simulation    | Pass           | Pass           |
| 38.3.4.2        | T2 | Thermal Test           | Pass           | Pass           |
| 38.3.4.3        | T3 | Vibration              | Pass           | Pass           |
| 38.3.4.4        | T4 | Shock                  | Pass           | Pass           |
| 38.3.4.5        | T5 | External Short Circuit | Pass           | Pass           |
| 38.3.4.6        | T6 | Impact / Crush         | Pass           | Not applicable |
| 38.3.4.7        | T7 | Overcharge             | Not applicable | Pass           |
| 38.3.4.8        | T8 | Forced Discharge       | Pass           | Not applicable |

The UN38.3 tests were performed at least by one of the following test houses and were tested to UN Manual Test and Criteria Revision 3 Amendment 1 or subsequent revisions or amendments.

|                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                          |
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| <p>DEKRA Testing and Certification (Shanghai) Ltd.<br/>Guangzhou Branch<br/>No. 3 Qiyun Road, Science City<br/>Guangzhou Hi-Tech Ind. Development Zone<br/>Guangzhou, China</p> <p>Telephone: +86 20 6661 2000<br/>E-Mail: <a href="mailto:Among.Chen@dekra.com">Among.Chen@dekra.com</a><br/>Web: <a href="http://www.dekra.com">www.dekra.com</a></p>             | <p>SIQ Ljubljana<br/>Mašera-Spasičeva ulica 10<br/>1000 Ljubljana, Slovenija</p> <p>Telephone: +386 1 4778 100<br/>E-Mail: <a href="mailto:info@siq.si">info@siq.si</a><br/>Web: <a href="http://www.siq.si">www.siq.si</a></p>                                                                                                                                          |
| <p>Sanyo Component Europe GmbH<br/>Technical CRM Section<br/>Stahlgruberring 4<br/>81829 München, Germany</p> <p>Telephone: +49 89 460095-0<br/>E-Mail: <a href="mailto:info.europe@sanyo-energy.com">info.europe@sanyo-energy.com</a><br/>Web: <a href="http://www.sanyo-energy-europe.com">www.sanyo-energy-europe.com</a></p>                                    | <p>Shanghai Research Institute<br/>of Chemical Industry Testing Co. Ltd.<br/>345 Yunlin Road(E)<br/>200062, Shanghai, China</p> <p>Telephone: +86 21 52813463<br/>E-Mail: <a href="mailto:zhoujy@oxygen18.com.cn">zhoujy@oxygen18.com.cn</a><br/>Web: <a href="http://www.oxygen18.com.cn/">http://www.oxygen18.com.cn/</a></p>                                          |
| <p>UL-CCOC Company Limited<br/>Guangzhou Branch<br/>No.8, Nanyun 2 Road, Science City, Guangzhou<br/>Hi-Tech Development Zone,<br/>510900, Guangzhou, Guangdong, China</p> <p>Telephone: +86 20 3213 1000<br/>E-Mail: <a href="mailto:customerservice.cn@cn.ul.com">customerservice.cn@cn.ul.com</a><br/>Web: <a href="http://www.ul.com">http://www.ul.com</a></p> | <p>Shenzhen NCT Testing Technology Co Ltd.<br/>A101, 1/F, &amp;2F, B2, Fuqiao 6<sup>th</sup> Area<br/>Xintian, Fuhai Street, Bao'an District<br/>Shenzhen, Guangdong, China</p> <p>Telephone: +86 755 27790922<br/>E-Mail: <a href="mailto:sales@nct-testing.com">sales@nct-testing.com</a><br/>Web: <a href="http://www.ncttesting.cn">http://www.ncttesting.cn</a></p> |

All batteries are compliant with Battery Regulation (EU) 2023/1542 and standard IEC 62133

### Product Test Information - Cells

| Model                      | Physical Description    | Weight | Rating | Test report      |            |
|----------------------------|-------------------------|--------|--------|------------------|------------|
|                            |                         | [kg]   | [Wh]   | number           | date       |
| INR-21700<br>Samsung 50S   | Li-ion cylindrical cell | 0,072  | 18,0   | SDI-UN-192426-03 | 2019-04-19 |
| INR-21700<br>Samsung 40T3  | Li-ion cylindrical cell | 0,067  | 14,4   | SDI-UN-170306-01 | 2017-03-06 |
| INR-21700<br>Samsung 30T1  | Li-ion cylindrical cell | 0,070  | 10,8   | SDI-UN-170331-01 | 2017-03-31 |
| INR-18650<br>Samsung 20R4  | Li-ion cylindrical cell | 0,045  | 7,2    | SDI-UN-150630-03 | 2015-06-30 |
| INR-18650<br>Samsung 25R5  | Li-ion cylindrical cell | 0,045  | 9,0    | SDI-UN-170331-02 | 2017-03-31 |
| ICR-18650<br>Tenpower 1500 | Li-ion cylindrical cell | 0,042  | 5,55   | NO.1118110180    | 2018-12-25 |
| ICR-18650<br>Tenpower 2000 | Li-ion cylindrical cell | 0,041  | 7,4    | NO.4789079122-5  | 2019-07-24 |
| INR-18650<br>Tenpower 25PG | Li-ion cylindrical cell | 0,045  | 9,0    | NO.4788850679-3  | 2019-03-25 |
| INR-21700<br>EVE 40PL      | Li-ion cylindrical cell | 0,065  | 14,4   | NCT23026800XB1-1 | 2023-07-11 |

### Product Test Information – Batteries 10,8V

Batteries are exchangeable and can be used in all 10,8 V products.

| Model                                           | Physical Description              | Weight | Rating | SoC          | Test report                   |                          |                    |
|-------------------------------------------------|-----------------------------------|--------|--------|--------------|-------------------------------|--------------------------|--------------------|
|                                                 |                                   | [kg]   | [Wh]   | [%]          | number                        | date                     | regulation         |
| Li-Power<br>625438000<br>316045190<br>321000760 | Li-Ion<br>10,8 V - 2,0 Ah<br>3S1P | 0,195  | 21,6   | > 20<br>< 30 | HU21DH9L 001<br>NO.1121100253 | 2021-08-23<br>2021-12-03 | UN 3480<br>UN 3481 |
| Li-Power<br>625585000<br>321000270              | Li-Ion<br>10,8V -4,0 Ah<br>3S2P   | 0,381  | 43,2   | > 20<br>< 30 | 28246992 001                  | 2018-09-21               | UN 3480<br>UN 3481 |

**Product Test Information – Batteries 12V (U<sub>max</sub>)**

Batteries are exchangeable and can be used in all 12 V products.

| Model                                           | Physical                        | Weight | Rating | SoC          | Test report                |                          |                    |
|-------------------------------------------------|---------------------------------|--------|--------|--------------|----------------------------|--------------------------|--------------------|
| number                                          | Description                     | [kg]   | [Wh]   | [%]          | number                     | date                     | regulation         |
| LiHD<br>625349000<br>321001140<br>321001310     | Li-Ion<br>12 V - 4,0 Ah<br>3S1P | 0,324  | 43,2   | > 20<br>< 30 | HU22FDMO 001               | 2022-06-03               | UN 3480<br>UN 3481 |
| Li-Power<br>625406000<br>321001120<br>321001430 | Li-Ion<br>12 V - 2,0 Ah<br>3S1P | 0,224  | 21,6   | > 20<br>< 30 | HU227CPF 001<br>4374118.50 | 2022-06-03<br>2021-04-15 | UN 3480<br>UN 3481 |

**Product Test Information – Batteries 14,4 V**

Batteries are exchangeable and can be used in all 14,4 V products

| Model                              | Physical                          | Weight | Rating | SoC          | Test report  |            |                    |
|------------------------------------|-----------------------------------|--------|--------|--------------|--------------|------------|--------------------|
| number                             | Description                       | [kg]   | [Wh]   | [%]          | number       | date       | regulation         |
| Li-Power<br>625417000<br>321001060 | Li-Ion<br>14,4 V – 1,5 Ah<br>4S1P | 0,324  | 21,6   | > 20<br>< 30 | 4359720.50   | 2019-12-19 | UN 3480<br>UN 3481 |
| Li-Power<br>625595000<br>321000540 | Li-Ion<br>14,4 V – 2,0 Ah<br>4S1P | 0,340  | 28,8   | > 20<br>< 30 | 28248753 001 | 2018-12-21 | UN 3480<br>UN 3481 |

**Product Test Information – Batteries 18V**

Batteries are exchangeable and can be used in all 18 V products

| Model                                                     | Physical                         | Weight | Rating | SoC          | Test report                  |                          |                    |
|-----------------------------------------------------------|----------------------------------|--------|--------|--------------|------------------------------|--------------------------|--------------------|
| number                                                    | Description                      | [kg]   | [Wh]   | [%]          | number                       | date                     | regulation         |
| LiHD<br>625367000<br>321001000<br>321001190               | Li-Ion<br>18 V - 4,0 Ah<br>5S1P  | 0,584  | 72,0   | > 20<br>< 30 | 28242835 003                 | 2020-12-18               | UN 3480<br>UN 3481 |
| LiHD<br>625368000<br>321001040<br>321001180               | Li-Ion<br>18 V - 5,5 Ah<br>5S2P  | 0,983  | 99,0   | > 20<br>< 30 | 28242837 003                 | 2020-12-18               | UN 3480<br>UN 3481 |
| LiHD<br>625369000<br>321000980<br>321001170               | Li-Ion<br>18 V - 8,0 Ah<br>5S2P  | 0,977  | 144,0  | > 20<br>< 30 | 28246520 001                 | 2018-09-17               | UN 3480<br>UN 3481 |
| LiHD<br>625549000<br>321001600<br>321001610               | Li-Ion<br>18 V - 10,0 Ah<br>5S2P | 0,996  | 180,0  | > 20<br>< 30 | 28253888 002<br>T211-0815/20 | 2020-09-23<br>2020-11-04 | UN 3480<br>UN 3481 |
| LiHD (DS)<br>624989000<br>321001640<br>321001190          | Li-Ion<br>18 V - 4,0 Ah<br>5S1P  | 0,660  | 72,0   | > 20<br>< 30 | 28242835 003                 | 2020-12-18               | UN 3480<br>UN 3481 |
| LiHD (DS)<br>624990000<br>321001650<br>321001180          | Li-Ion<br>18 V - 5,5 Ah<br>5S2P  | 1,065  | 99,0   | > 20<br>< 30 | 28242837 003                 | 2020-12-18               | UN 3480<br>UN 3481 |
| LiHD (DS)<br>624991000<br>321001660<br>321001610          | Li-Ion<br>18 V - 10,0 Ah<br>5S2P | 1,156  | 180,0  | > 20<br>< 30 | 28253888 002                 | 2020-10-01<br>2020-11-04 | UN 3480<br>UN 3481 |
| LiHDX<br>624974000<br>321001910<br>637561000<br>321001940 | Li-Ion<br>18 V – 4,0Ah<br>5S1P   | 0,580  | 72     | > 20<br>< 30 | HU24LTWB 001                 | 2024-02-13               | UN 3480<br>UN 3481 |
| LiHDX<br>624975000<br>321001890<br>637562000<br>321001950 | Li-Ion<br>18 V – 8,0Ah<br>5S2P   | 0,950  | 144    | > 20<br>< 30 | HU24R70X 001                 | 2024-12-16               | UN 3480<br>UN 3481 |

|                                                 |                                 |       |      |              |                                                              |                                                      |                    |
|-------------------------------------------------|---------------------------------|-------|------|--------------|--------------------------------------------------------------|------------------------------------------------------|--------------------|
| Li-Power<br>625418000<br>321001050              | Li-Ion<br>18 V – 1,5 Ah<br>5S1P | 0,392 | 27,0 | > 20<br>< 30 | 4359675.50                                                   | 2019-12-19                                           | UN 3480<br>UN 3481 |
| Li-Power<br>625592000<br>321000350<br>321001220 | Li-Ion<br>18 V – 5,2 Ah<br>5S2P | 0,670 | 93,6 | > 20<br>< 30 | 28247087 001                                                 | 2019-02-20                                           | UN 3480<br>UN 3481 |
| Li-Power<br>625026000<br>321001450<br>321001670 | Li-Ion<br>18 V – 2,0 Ah<br>5S1P | 0,383 | 36,0 | > 20<br>< 30 | HU213J99 004                                                 | 2021-05-21                                           | UN 3480<br>UN 3481 |
| Li-Power<br>625027000<br>321001470<br>321001680 | Li-Ion<br>18 V – 4,0 Ah<br>5S2P | 0,685 | 72,0 | > 20<br>< 30 | HU2177MB 001<br>HU219AF5 001<br>HU210YG9 001<br>HU21A74Q 001 | 2021-05-25<br>2021-05-21<br>2021-08-06<br>2021-09-09 | UN 3480<br>UN 3481 |
| Li-Power<br>625028000<br>321001490<br>321001690 | Li-Ion<br>18 V – 5,2 Ah<br>5S2P | 0,695 | 93,6 | > 20<br>< 30 | HU216BYZ 001<br>HU21LMZX 001                                 | 2021-07-22<br>2021-08-06                             | UN 3480<br>UN 3481 |

**Product Test Information – Batteries 36 V**

Batteries are exchangeable and can be use in all 36 V products

| Model                              | Physical                         | Weight | Rating | SoC          | Test report  |            |                    |
|------------------------------------|----------------------------------|--------|--------|--------------|--------------|------------|--------------------|
| number                             | Description                      | [kg]   | [Wh]   | [%]          | number       | date       | regulation         |
| Li-Power<br>625529000<br>321000130 | Li-Ion<br>36 V – 5,2 Ah<br>10S2P | 1,403  | 187,2  | > 20<br>< 30 | 28249699 001 | 2019-05-28 | UN 3480<br>UN 3481 |
| LiHD<br>637047000<br>321001410     | Li-Ion<br>36V – 8,0 Ah<br>10S2P  | 1,963  | 288,0  | > 20<br>< 30 | HU21LT91 001 | 2021-05-11 | UN 3480<br>UN 3481 |

**Signature of responsible person of the Company**



ppa. Bernd Fleischmann (digitally signed)  
Chief Technical Officer Koki Holdings Co., Ltd.